

P R O C E E D I N G S

OF THE

MINERALOGICAL AND GEOLOGICAL SECTION OF THE ACADEMY
OF NATURAL SCIENCES OF PHILADELPHIA.

1877-1879.

MAY 28, 1877.

A New Polariscopes.—Mr. H. C. LEWIS remarked that a cheap and accurate polariscopes for the measurement of the optic-axial divergence in minerals had long been a desideratum among mineralogists. He wished to direct attention to an instrument for this purpose, lately made for him by Queen & Co., of this city, which had proved very satisfactory. The light was polarized by reflection from a plate of black glass, converged upon the rotating stage by two sets of adjustable lenses, and analyzed by a Nicol's prism. A graduated circle of steel, having through its axis a sliding forceps, is fastened at right angles to the stage. A pointer records the amount of rotation of the forceps. The mineral to be examined is either held in the forceps or is attached by a drop of oil to a piece of thin glass which is held in the same way. Cross-hairs are fixed below the eye piece, and the measurement of the divergence of the optic axes is performed in the usual way. The instrument was found to work admirably and could be recommended. The adjustments were made quickly and the axial divergence could be determined to within 30'. It is simple, absorbs but little light, and gives good results even with very small fragments of minerals.

A Garnet with Inverted Crystallization.—Mr. LEWIS exhibited a garnet which he had found in Germantown, and stated that it showed a very perfect example of inverted crystallization. Its form was a perfect trapezohedron except that one octant was depressed, its apex lying within the crystal, one-half way towards the centre. The re-entrant angles corresponded in position with the trihedral edges on the opposite octant of the crystal. The garnet was an isolated one found in a matrix of gneiss. Attention was called to the fact that such inverted crystallization was apparently more common in the isometric than in other systems of crystallization and comment was made upon the cause of such phenomena.

JUNE 25, 1877.

Change of Serpentine into Quartz.—Mr. THEODORE D. RAND described and presented specimens showing the change of ser-